

Pulsed flows along a cusp structure observed with SDO/AIA

B. J. Thompson, P. Demoulin, C. H. Mandrini, M. L. Mays, L. Ofman, L. Van Driel-Gesztelyi, N. M. Viall

We present observations of a cusp-shaped structure that formed after a flare and coronal mass ejection on 14 February 2011. Throughout the evolution of the cusp structure, blob features up to a few Mm in size were observed flowing along the legs and stalk of the cusp at projected speeds ranging from 50 to 150 km/sec. Around two dozen blob features, on order of 1 - 3 minutes apart, were tracked in multiple AIA EUV wavelengths. The blobs flowed outward (away from the Sun) along the cusp stalk, and most of the observed speeds were either constant or decelerating. We attempt to reconstruct the 3-D magnetic field of the evolving structure, discuss the possible drivers of the flows (including pulsed reconnection and tearing mode instability), and compare the observations to studies of pulsed reconnection and blob flows in the solar wind and the Earth's magnetosphere.